CULCON XXI

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Report of the Digital Culture Working Group to CULCON XXI

The present Digital Culture Working Group (DCWG) was constituted after CULCON XX in June, 2001, with substantial changes in membership from its predecessor. Its charge was to implement the *Cross Currents* website, building on the prototype and final report presented by the original DCWG and approved at CULCON XX.

The report of the original DCWG envisioned a bilingual, binational, educational website that would contain a large quantity of digital resources covering the cultural and social history of Japan and the United States over the past 50 years, and emphasizing their interaction and "crosscurrents." The report outlined a professional quality, database-driven website to be produced at an estimated cost of two to three million dollars.

As part of its presentation to CULCON XX, the original DCWG had produced a prototype video that illustrated the rationale and the general appearance of the proposed website and suggested many of its technical features. The purpose of the videotape was to present the idea of *Cross Currents* visually. We must emphasize that the video did not constitute a functioning website with the timeline, scrapbook, glossary and search features implemented. Moreover, the prototype's underlying structure was based on simple html pages and not the database-driven website that the report recommended for a project of this scale.

As agreed upon at CULCON XX, the US side was to take primary responsibility for fundraising and implementation of the project, which would be developed by a binational team. CULCON would support the binational working group to implement the project until CULCON XXI. We are reporting on the implementation phase of the project over the past two years.

On the US side, the Japan-US Friendship Commission provided initial funding in March, 2002 to Professors Colin Macdonald and Linda Menton of the University of Hawaii, who constitute the US production team together with DCWG US Co-Chair Professor Patricia Steinhoff. Professor Masako Notoji of Tokyo University and Professor Masanao Takeyama, now of Keio University, became the production team on the Japan side. The current DCWG consists of these five persons plus two members from the earlier DCWG, Ms. Mary Bernson of the University of Washington and US CULCON panelist Professor Linda Kerber of the University of Iowa.

The reconstituted DCWG has met three times, twice in Honolulu and once in Tokyo, to guide the work of the binational production team. At its first meeting, the DCWG agreed that its goal would be to have the website functioning with content for the first theme of Workplaces by CULCON XXI. The production teams and their largely student staff have worked steadily to develop and test the website, and we have met our goal.

This report will cover the following areas: funding of the project; the design, content, and functionality changes implemented during production of the website; tests of the website conducted with students; the future of the project; and our recommendations to CULCON XXI.

I. Funding

Both the US and Japanese production teams have received administrative and content-related support from several sources. The Japan side has received support for the DCWG from the Japan Foundation and from Japan CULCON, including strong staff support from the CULCON staff in Tokyo. It has also received a special grant from the Japan Foundation to cover copyright fees for the use of photographs from the Mainichi Photobank.

The US side has received three successive grants from the Japan-US Friendship Commission (JUSFC) plus two smaller grants from US CULCON. In addition, the US side has received a small grant from the University of Hawaii's National Resource Center for East Asia for a teacher workshop to train high school teachers in Hawaii to use the website and test it in classrooms with their students. With assistance from the JUSFC staff, overtures were made to several corporate funding sources, but these were not successful.

The US team submitted large grant proposals to the National Endowment for the Humanities in fall 2002 and the United States-Japan Foundation in spring 2003 to support specific components of the project. These first-round proposals were not successful. Feedback from the agencies indicated that the proposals could not be supported until the website was up and running. They also expressed concern that the overall cost of the project was very high, and therefore that their own contributions would not have a significant impact.

Both of these concerns have been largely overcome in the past year. We now have a working website with substantial content available for use, and we have managed to produce it at considerably lower cost than the original DCWG estimates. The cost savings have come in four areas and reflect the advantages of developing such a project in a university environment:

1.	members of the US team have provided web page design and database programming at minimal cost to the project, and other programming has been done by graduate students at modest cost;

2.	project staff at the University (primarily graduate students) have been able to develop content for the website at reasonable cost;

3.	project staff have found royalty-free digital materials from a number of sources in the US that greatly reduced the costs for copyright fees;

4.	the Japanese team has also been able to secure assistance of graduate students at reasonable cost to collect digital materials and develop content for the website.

With a working product to demonstrate and more modest cost estimates, we now have revised proposals pending at the same two funding agencies. We are cautiously optimistic that these proposals will be approved. The proposal to the National Endowment for the Humanities would support development of the humanities content of the website across several themes, as well as broader implementation of the timelines as a supplement to the website's materials. The proposal to the United States-Japan Foundation would fund the development of the scrapbook function on the website, curriculum support materials for teachers, and teacher workshops in both the US and Japan to promote classroom use of the website. We may submit proposals to one or two additional granting agencies, but we believe we will be able to complete the bulk of the project if the two pending proposals are fully funded.

II. Development of the Website and Changes During Production

Actual production of the *Cross Currents* website began in the summer of 2002 at the University of Hawaii, following an initial meeting of the DCWG in Honolulu to set goals and reach agreement on basic technical requirements for implementing the project.

The first tasks were to design and program a relational database to hold the digital content, and then to program the web interface that would deliver that content interactively on demand. We demonstrated the results of our working model at a DCWG meeting in Tokyo in November, 2002. For this first stage of implementation we followed the general visual design of the video prototype pages and populated the database with digital content that had been collected for the prototype. We subsequently learned, however, that most of that early content did not have proper copyright clearance and could not be used on a live website.

The next task of the production teams was to collect and create new content for the

website, and to post the approved content to the live website hosted on a University of Hawaii College of Social Sciences server.   While developing content, the production teams began implementing design changes that have altered the visual appearance of the website and have enriched its multimedia content.   Some of these changes were demonstrated at a DCWG meeting in Honolulu in June, 2003, and other have been developed since then through continuing dialog between the US and Japanese production team members.   These improvements fall into the following areas:

1. Visual appearance and functions of the site

a.   The color scheme and navigation of the website and the opening page have been redesigned to make the site more visually coherent, functional, and attractive to its intended younger audience. Material on Japan, the US, and their Crosscurrents is strongly color-coded.

b.   Menu pages have been added so that users can browse the site and freely select content to view by title, without following a preset order, and can easily return to make further selections from the menu lists.

c.   The website has been programmed so that users initially choose to view the site in either Japanese or English, including all navigation, menus, and content. They may switch at any time to parallel pages that are completely in the other language. In addition, on the pages that display the website's content, users may keep the framework with all navigation and menus in one language, but view and listen to the content segments in either language.

d.   We are complying with US government requirements for website accessibility under the Americans for Disabilities Act. The *Cross Currents* website contains alt text for all images . The sound recording of the text segments, intended for language learning, also contribute to accessibility for the visually impaired. Because the site is bilingual, these supports are provided in both English and Japanese in the relevant locations.

e.   We have developed an effective bilingual search function, which displays the results of the search as a list of titles in the three color-coded threads. Users may then move immediately to the content page for any of the titles. The glossary function works in much the same way, permitting users to quickly find content related to a glossary term.

2. Expanded Content Development

a.   The database and the pages that deliver content from the database to the website have been redesigned so that each page of content displayed now also provides direct access to additional multimedia material in up to five categories: documents,

audio-visual clips, charts, photographs, and maps. Our goal is to have at least one such "extra" for each content unit on the site, although the actual number varies. These additions greatly expand the educational potential of the site by supporting active learning exercises.

b.   In addition to audio-visual clips drawn from other sources, the site also now contains a number of virtual reality scenes photographed royalty-free by the production team and staff. These specially processed photographs allow the user to enter the picture and manipulate it for a 360° view, as well as to zoom in and out. The site contains equivalent or parallel virtual reality scenes from the United States and Japan. In some cases, one scene in the Crosscurrents area demonstrates vividly the interaction and fusion of the two cultures.

c.   All charts, maps and documents on the website have been produced in both English and Japanese versions, providing equal access to users in both countries and enabling language students to compare the two versions.

d.   The themes and subthemes originally proposed by the DCWG have proven to be fungible in practice, with each topic quickly expanding beyond its original boundaries. Our work on the first theme of Workplace has led us to develop some material that fits logically into other themes. We have therefore gone beyond our goal of completing the Workplace theme by CULCON XXI and have developed and posted on the website some content for several other themes.

e.   Following good website practice, we only advertise what we can deliver. This means that many of the original themes are not yet presented on the live website because their content has not been developed. While we do not present a theme or subtheme until we have roughly parallel material for Japan, the US and their crosscurrents, we intend to post the content whenever we have enough for at least one full subtheme. This approach allows us to add new material incrementally, providing some fresh content each time a user returns, without promising more than is actually available. The overall structure and design of the website permits us to expand easily in this way.

III. Testing the Website with Students

Since the *Cross Currents* website is intended for educational use both in classroom settings and independently by students, testing the website with students has been an important aspect of its development. We have conducted initial tests for both basic functionality and educational effectiveness using college students at the University of Hawaii and high school students in the University's Lab School. The initial testing revealed some technical difficulties in cross-platform use by students accessing both the Japanese and the English parts of the site with a variety of computers and both low and high bandwidth Internet access. We have resolved most of these problems and are

developing solutions for the remaining ones. As indicated in the original DCWG report, however, the project cannot be backward compatible with older computers and software that is not Unicode-compliant.

Detailed results from student testing are reported in Appendix A, along with the protocols used for the testing. Overall, college students found the site well-organized and easy to use. They were able to use the site to write short papers with appropriate information and supporting evidence.

IV. *Future of the Project*

The *Cross Currents* website is currently hosted on a University of Hawaii server in the College of Social Sciences, with the URL http://www.crosscurrents.hawaii.edu. It can continue to use this URL and enjoy free web-hosting and technical support as long as the project remains in active development in association with the University. We anticipate that new arrangements may need to be made to host and maintain the website after development is completed in 2005-2006.

Following its debut at CULCON XXI, the website will become available to the public and the current password protection will be removed so that it is freely accessible.   We intend to continue developing content along the lines originally envisioned, using our current grants and additional support as it becomes available. As the content on the website broadens and its specialized functions are developed, we will begin to advertise the site to potential users and report it to search engines.   We will also continue testing the site with students in different contexts and training teachers so they can make effective use of it.

We estimate that the full website can be completed within the next two years, at a total cost of no more than one million dollars, of which approximately half has already been expended on developing the prototype and bringing the website to its present state. Our plans and grant proposals also include development of extensive support for teachers through training workshops and curriculum materials, in order to realize the full educational potential of the project.

V. *Recommendations for CULCON XXI*

In order to take *Cross Currents* to the next stage, preserving the binational framework that has enabled the project to develop to its present level, we recommend

1.   That CULCON formally disband the DCWG, giving *Cross Currents* its independence and home in the private sector.

2.   That CULCON establish a binational Digital Culture Oversight Committee that will meet annually to provide guidance to the project until CULCON XXII, in order to preserve the binational, bicultural nature of *Cross Currents*.

Appendix A: Results of Student Testing of the Website

Initial testing of the *Cross Currents* website was carried out in September, 2003, in three University of Hawaii classes. Further testing will be carried out in October at the University of Hawaii Lab School. The investigators felt that college students were more appropriate for the first round of testing and that they would provide better feedback for site improvements. We have received an exemption from the University of Hawaii Social Science Committee on Human Studies for the student testing.

Professor Steinhoff first tested the website in her upper division writing intensive course on Japanese Society, with 36 students participating. The testing was primarily to see whether students could make effective use of the website to gather information for a writing assignment, but functionality was tested indirectly. The assignment sheet, evaluation form, and sample essays are attached.

The assignment required students to select two out of a list of six questions on which to write a one paper paper based on material they found on the *Cross Currents* website. Each question was constructed so that students needed to find information from several places on the website, including information in charts and other supplemental information. The assignment was both a writing assignment in using evidence and an exercise in how to cite Internet sources properly without plagiarism.

The short essays were generally competent, with the usual variation in quality for an undergraduate course at a state university. Students received full credit if they completed the assignment, along with instructor's comments on the quality of the writing and the information gathering. For purposes of website evaluation, we counted the number of different places in the website the student drew information from and cited in the short paper. A very small number of students did not follow instructions and did not cite their sources. These cases were dropped from the analysis. Of 71 essays received, 6 were dropped for lack of readily countable citations. In the 65 usable essays there were a total of 263 web page citations, for an average of four different web pages cited per essay. There was some variation between essays, reflecting differences in the availability of material for each topic, but the range was not great.

Both the quality of the short essays and the number of different places students used to find the information demonstrated that the *Cross Currents* website can be used effectively for active learning exercises that require students to explore the site in order to investigate a topic or question. The majority of the short essays reflected thoughtful interaction with the material and an effort to draw conclusions from the information and evidence. This suggests that the site does stimulate critical thinking. When the question was comparative, students were able to make reasonable comparisons based on material they found in different threads of the website.

The results of the evaluation form are reported below, since all classes used the same form. In a class discussion following the assignment as well as in their written comments on the evaluation form, sociology students reported that the website was well organized and uncluttered. They quickly figured out how to locate the information they needed. Their comments about functionality reflected both known and unknown glitches in the site, most of which have since been corrected. Despite the ease of finding information on the site, students requested a search box, which has since been developed. Several of the students in the class are native speakers of Japanese, so the test also covered the Japanese side of the site. However, because they had to write the assignment in English, they reported viewing the site in both English and Japanese. There was no measurable difference in their ability to use the site compared with those who accessed it only in English.

Professor Colin Macdonald conducted functionality testing of the website in two lab classes concerned with website construction and multimedia. He used a standard variation of Nielson methods, in which one student did the hands-on test while a partner observed, and then

the two switched roles. For these tests, the instructor used the same questions that Steinhoff had used, but students were simply asked to find the information and not to write it up. The exercise was designed to see how difficult it was for students to navigate the website and to observe their procedures under more controlled conditions. In addition to the same evaluation used for the earlier content testing, these tests used a Likert scaled evaluation form and a form on which students reported the results of the testing in more narrative fashion. The Communications students were understandably more critical since the academic purpose of their assignment was to teach methods of critiquing and evaluting websites.

Quantitative evaluations were obtained from 36 sociology students (57% of the sample) and 27 communications students (43% of the sample). Over half of the students in the sociology class had access to high speed Internet connections either at home or at school. Results from the communications class are distorted because the exercise was done in a university lab with high speed connections. However, students in both classes reported a very high level of Internet use to find information, with most reporting that they used the Internet to find information either several times a week or several times a day.   This is of course highly correlated with availability of a high speed connection. About a quarter of the students viewed the site in both Japanese and English.

Where did you do the assignment?

	(%)		
	Total (n = 63)	Soc (n = 36)	Com (n = 27)
1 home, using dialup connection	17	31	-
2 home, using high speed connection	30	47	7
3 school, using high speed connection	51	22	89
4 public site, using high speed connection	2	-	4
Total	100%	100%	100%

Language used to view the site

			(%)
	Total (n = 63)	Soc (n = 36)	Com (n = 27)
1 English	71	72	70
2 Japanese	5	3	7
3 both English and Japanese	24	25	22
Total	100%	100%	100%

Frequency of Internet use to find information

	Total (n = 63)	Soc (n = 36)	Com (n = 27) (%)
1 never	2	3	-
2 about once a month or less	3	6	-
3 several times a month	3	6	-
4 several times a week	41	39	44
5 several times a day	51	47	56
Total	100%	100%	100%

The biggest difference between the two classes was in reporting of how much difficulty they had finding information and evidence on the site. In both cases, students in the sociology class reported substantially less difficulty than students in the communications classes.   This appears to be because of the basic difference in the two assignments.   The communications students were just testing functionality under more controlled conditions, and they reported some difficulty. The sociology students may have been more motivated to find the information because they had to write about it, and they may have paid less attention to momentary navigation difficulties because they were able to find the information they needed.

Did you have trouble finding basic information on the site?

	Total (n = 63)	Soc (n = 36)	Com (n = 27) (%)
1 no trouble	40	67	4
2 a little trouble	35	31	41
3 a lot of trouble	24	-	56
4 couldn't find information at all	2	3	-
Total	100%	100%	100%

Did you have trouble finding evidence or data on the site?

	Total (n = 63)	Soc (n = 36)	Com (n = 27)
1 no trouble	30	47	7
2 a little trouble	44	50	37
3 a lot of trouble	24	-	56
4 couldn't find any evidence	2	3	-
Total	100%	100%	100%

The communications students also rated several aspects of the site using a Likert scaled evaluation form with responses ranging from 1 (negative) to 5 (positive). Mean responses to the questions ranged from a high of 3.7 for relevance of the site images to the content, down to 2.41 for whether they would recommend the site to a friend.

Post Session Evaluation (Communication Students Only)

(n = 27)

Statement (Scale)	Mean
4. Relevance of site images to content (1Not relevant - 5 Relevant)	3.70
5. Relevance of site content (text) (1 Not relevant - 5 Relevant)	3.63
3. Overall look and feel of site (1 Not pleasing - 5 Pleasing)	3.41
8. Is the site inviting to use? (1 Not inviting - 5 Inviting)	3.26
7. Overall page layout and organization (1 Confusing - 5 Very clear)	3.15
9. Were the naming and labeling of links clear? (1 Confusing - 5 Very clear)	3.04
2. Able to navigate through the site (1 Confusing - 5 Very clear)	2.81
1. Able to complete tasks as requested (1 Frustrating - 5 Easy)	2.59
6. Overall ease of use (1 Confusing - 5 Very clear)	2.52
10. Would you recommend this site to a friend? (1 Never - 5 Absolutely)	2.41

Similar student testing is scheduled for high school students in the University Lab School in October 2003. We will continue to use these and other similar evaluation methods as the site develops, with active learning exercises based on new thematic content as it is added to the site.

We expect to see continuing improvement in the rating for functionality testing as problems are corrected and new components are added to the website that increase ease of use. The active learning exercises offer opportunities for both quantitative and qualitative evaluation of the educational potential of the site. We are working with University of Hawaii Japanese language faculty to adapt our active learning methods in order to test the website with third and fourth year Japanese classes. These students will also complete the standard evaluation form.

Internet Exercise Evaluation Form

A. Where did you do the assignment?
  1. at my home or someone else's home, using a dial-up connection   1_____
  2. at my home or someone else's home, using a high-speed connection   2_____
  3. at school or in a dorm room using a high-speed connection   3_____
  4. at a public use site with a high-speed connection   4_____

B. What language did you choose to view the Crosscurrents website in?
  1. English   1_____
  2. Japanese   2_____
  3. both English and Japanese   3_____

C. How often do you use the Internet to find information?
  1. never   1_____
  2b. about once a month or less   2_____
  3. several times a month   3_____
  4. several times a week   4_____
  5. several time a day   5_____

D. Did you have any trouble finding the basic information you needed to answer the questions in the assignment?
  1. I had no trouble finding the information   1_____
  2. I had a little trouble finding the information   2_____
  3. I had a lot of trouble finding the information   3_____
  4. I couldn't find the information at all   4_____

  Please explain what caused the trouble or made it easy to find information

E. Did you have trouble finding evidence or data to support your answers to the qeustions in the assignment?
  1. I had no trouble finding evidence   1_____
  2. I had a little trouble finding evidence   2_____
  3. I had a lot of trouble finding evidence   3_____
  4. I couldn't find any evidence.   4_____

  Please explain what caused the trouble or made it easy to find evidence

F. How did the website design make it easier or harder for you to find what you needed?

Thank you for helping us test the Crosscurrents website. We would appreciate any suggestions you have for improving the site.

Internet Exercise

This exercise will help us test the Crosscurrents website, an international project that is currently being developed at the University of Hawaii by professors Patricia Steinhoff, Linda Menton, and Colin Macdonald and several graduate student assistants. We want to find out if you are able to find information on the website, and what problems you have in using it. The exercise is also designed to help you learn how to cite sources that you find on the Internet.

The assignment is to select TWO topics from the list below. For each topic, write a one or two page paper using only materials you find on the Crosscurrents website. The paper should not just answer the questions, but should present some evidence, which you can also find on the website. The evidence could be some statistics or other data, or it could be a description of something you can see on the website. You are to give the full citation for everything you use from the website. Instructions for the citations are also given below.

Basic Instructions for the Exercise

1. Pick two topics from the list below.
2. Go to the Crosscurrents website at http://www.crosscurrents.hawaii.edu.
3. When asked for the password, type in: digitalone
4. Follow the instructions on the first page to enter the website. You may view the website in either Japanese or English.
5. Look around in the website to find material to answer the questions you have chosen to write on. You will need to look at several different pages in order to answer the questions asked in each topic. You will also need to look at the material in the links at the bottom of the text pages to find evidence for your answers.
6. Then write a short (one-two page) paper for each topic that answers the questions posed. Write the two papers in English. If you viewed the pages in Japanese, you can either cite the Japanese titles or switch the text to English and cite the English title for the same page.
7. We want to see where you looked and what you found in each place on the website. Put each citation in parentheses, right after the information it refers to. For this exercise, please put the whole citation there, instead of listing references at the end of the paper. Remember that if you copy words directly from the website, you must also mark them as quotations, either with quotation marks or by indenting the text, in addition to citing the source. If you do not mark text as a quotation, we assume that it is your own words, but it still requires a citation to the source for the ideas or information.
8. When you have completed the exercise, please fill out the evaluation form.
9. Bring your two papers and the evaluation form to class on Friday, September 19.

Topics to Write On (Choose TWO from the following list)

1. How has the mechanization of agriculture changed the lives of farm families in Japan?
2. What do apples and oranges have to do with relations between Japan and the United States?
3. How are labor unions in Japan and the United States different? How are they similar? Who can join a union? who can't? Who can choose whether to join or not?
4. How is rice grown in Japan and the United States? Do the Japanese eat as much rice as they used to 40 years ago? 50 years ago?
5. Who drinks more milk, Japanese or Americans/ What is different about their dairy industries and use of dairy products?

6. How are labor strikes different in Japan and the United States? How has the frequency of strikes changed in Japan and the U.S.? Are the reasons the same?

Instructions for Citing Material from the Crosscurrents Website

Normally, an Internet citation includes the URL of the page plus the date on which you viewed it, since pages may change over time. Since all of your citations are going to come from the Crosscurrents website, your citations need to be much more specific about where you found the material on the site. Normally, you use the URL for the page as the source for material you find. This website draws its material dynamically from a database, so the URL given in the address window of the browser does not give the complete information you need to cite the source. In addition to what is listed in the browser for the page, please include the following in your citations:

1. If the information comes from a page that contains a title and a paragraph of text, please cite the title when you use information from that page.
2. If the information comes from a chart or map on the website, cite both the title of the text page where you found the link, and the source that is listed on the chart or map page.
3. If the information comes from a photo or a virtual reality scene, cite the title of the page where you found the picture or the link to it, and the copyright holder if one is listed.

Thank you for helping us evaluate and improve the Crosscurrents website.

NOTE: In order to view and enter the virtual reality scenes on the website, you need to have a Quicktime player on your computer, and it needs to be set as the default for viewing Mac files (even if you're working on a PC). If you go to a virtual reality page and it doesn't open correctly, or it opens in Windows Media Player, you can use the link on the page to download the Quicktime player. It is free. If the virtual reality pages open correctly, then you already have the Quicktime player on your computer.

Observation Form for Usability Testing

Participant ID#

Date:	Site URL

Time	Task Description	Observations/Comments/Notes

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Post Session Survery

Please fill out the following questions based on how you are feeling overall about the site:

Name: (First Name, Last Initial) _____
Date: _____

1. Able to complete tasks as requested
Frustrating   1   2   3   4   5   Easy

2. Able to navigate through the site
Confusing   1   2   3   4   5   Very Clear

3. Overall look and feel of site
Not pleasing   1   2   3   4   5   Pleasing

4. Relevance of site images to content
Not relevant   1   2   3   4   5   Relevant

5. Releance of site content (text)
Not relevant   1   2   3   4   5   Relevant

6. Overall ease of use
Confusing   1   2   3   4   5   Very Clear

7. Overall page layout and organization
Confusing   1   2   3   4   5   Very Clear

8. Is the site inviting to use?
Not inviting   1   2   3   4   5   Inviting

9. Were the naming and labeling of links clear?
Confusing   1   2   3   4   5   Very clear

10. Would you recommend this site to a friend?
Never   1   2   3   4   5   Absolutely

Please list any additional comments about the site and your experience:

_____

_____

_____

_____

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Appendix B. Quick Tour of Cross Currents

Home Page The site opens with a bright graphic of three squares representing the three threads. Text in both *Japanese* and English invites the user to select one of the three threads to begin exploring the site.

The English text points the user to the English language links to click, while the Japanese text points the user to the Japanese language links. In our testing with students, this feature works as we had expected, to provide a graceful and intuitive language selection. The user will continue to view pages with navigation and text in the chosen language based on this initial language selection, until another choice is made to switch languages.

Theme and Subtheme Pages This first click will lead the user to a page that displays iconic photos of the various themes. We intend to display on the live website only those themes for which some content is available, to avoid advertising more than we can deliver. Hence this page will change over time as new themes are developed. At present the site bypasses this page and goes directly to Work, the theme that we are now completing.

To accommodate the photos and reinforce one's thread location in the site, the selected thread opens wider to display its photos. On this and all subsequent pages, the top navigation bar and search box offer access to various support functions. (The search bar is currently being added to all pages.) A color bar allows the user to move easily between the three threads and to switch languages, again using the simple device of offering the thread name in both languages as clickable links. The Crosscurrents logo always returns the user to the home page.

Work subtheme page open to different threads, in English and Japanese

Menu Pages   Clicking on a subtheme picture leads to a menu page that displays the titles of content units available for that subtheme. This page draws data dynamically from the database to produce the list of titles in the expanded thread.

Clicking on a title takes the user directly to the content page, which is dynamically generated from the database. From the menu page, the user can also move easily to other subthemes in the same thread, or to subthemes in the other two threads.

Content Pages The content page provides a paragraph or two of text on the topic, plus a main image (usually a photograph) with a caption. Links above the text allow the user to switch the language of the title, text, and caption, while keeping all navigation in the original viewing language.

A set of standard links at the bottom of the content page indicates by a color change when supplemental material is available in one of the five categories of Documents, Audio-Visual, Charts, Photos, or Maps. In addition, we frequently incorporate a "teaser" at the end of the text to draw the reader's attention to the supplemental material.
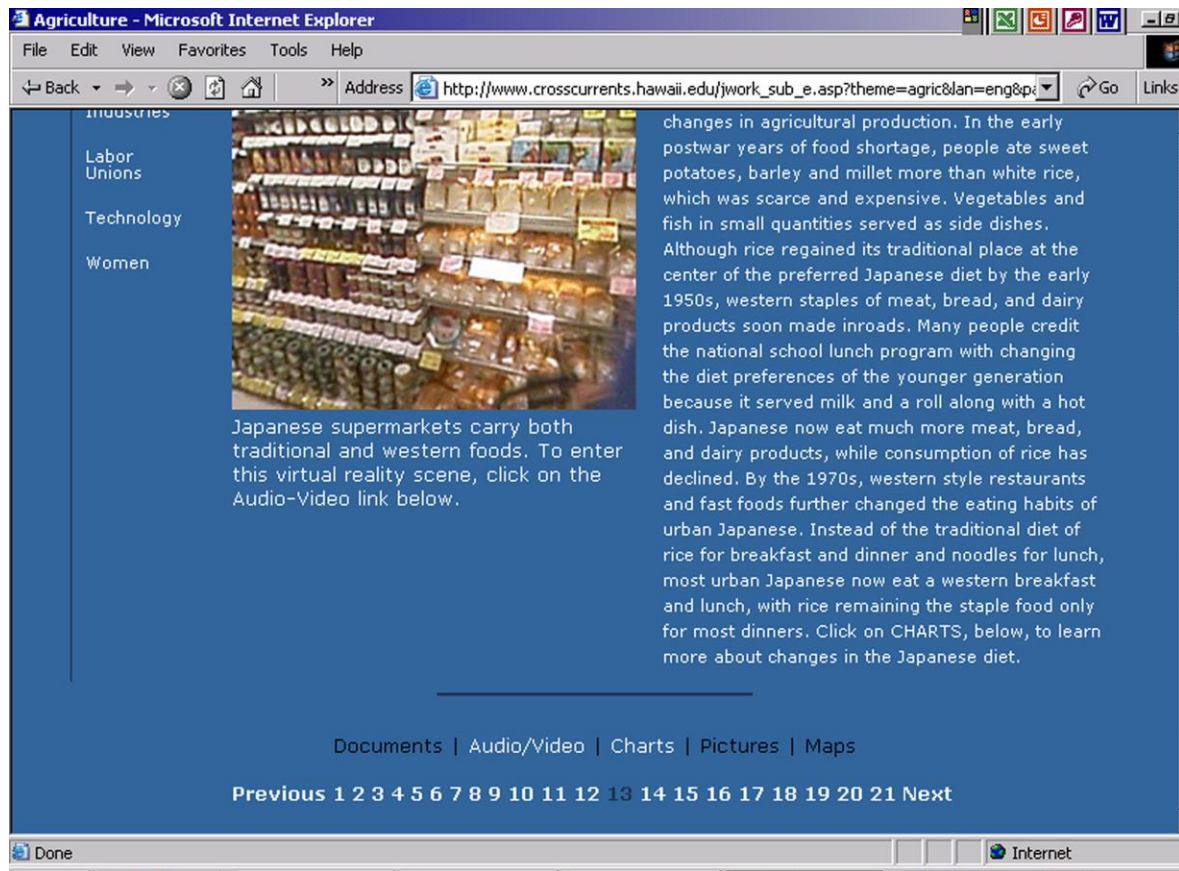
Links to Supplemental Material All charts, maps, and documents are available in both English and Japanese, with the presentation based on the user's primary viewing language. Documents may include the text of a law, a list that is too long to display effectively as a chart, or a table of statistics from which users can do their own analysis. Most of the charts have been specially prepared for the site by one of our staff members to display information effectively.

Economy of Farming Households in Japan, 1975 and 2001


日本の農家の家計内訳： 1975 年および 2001 年
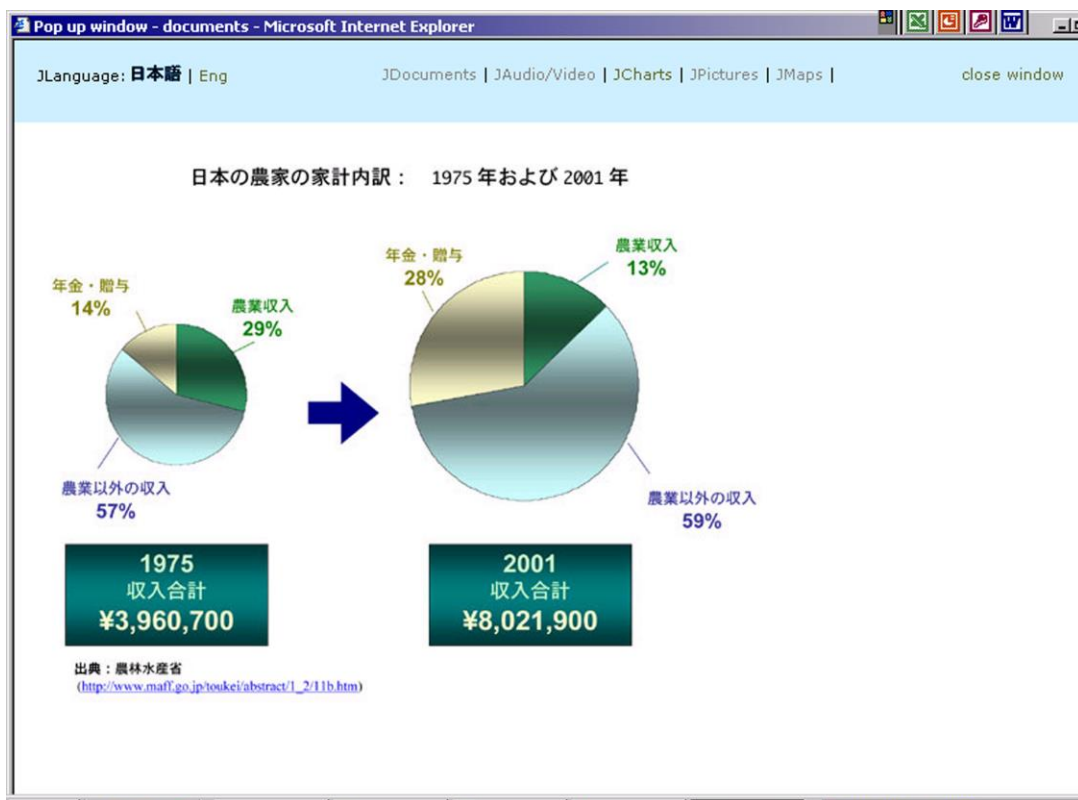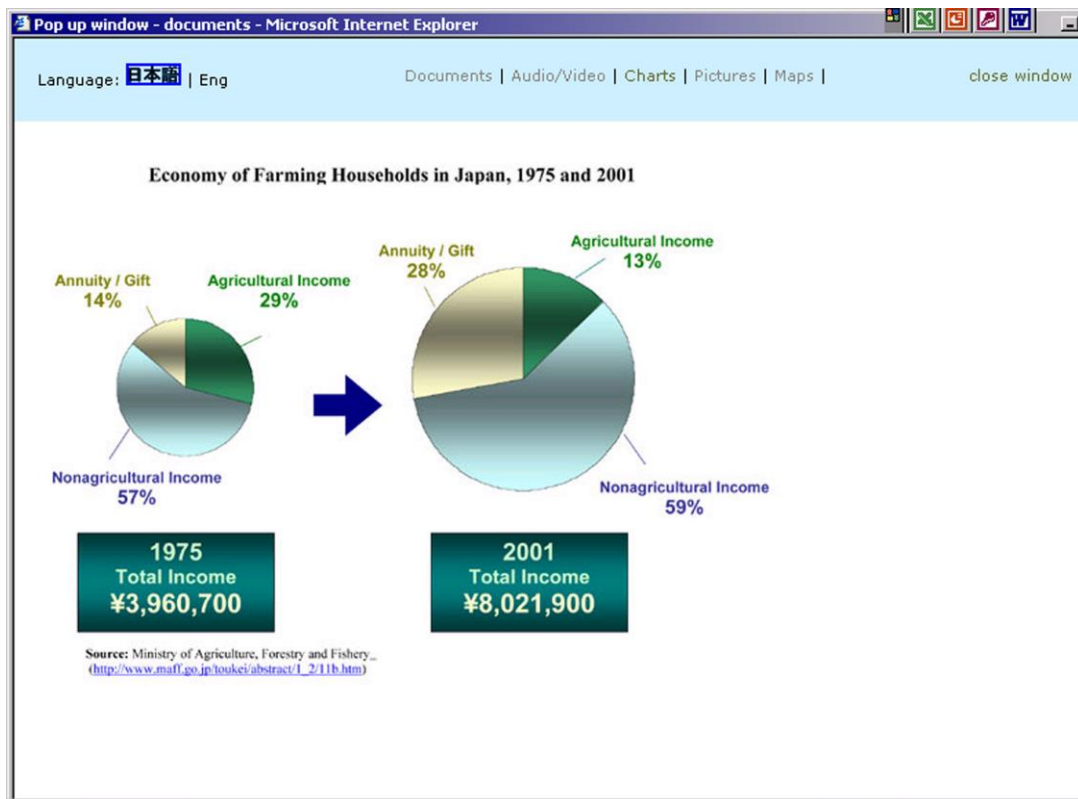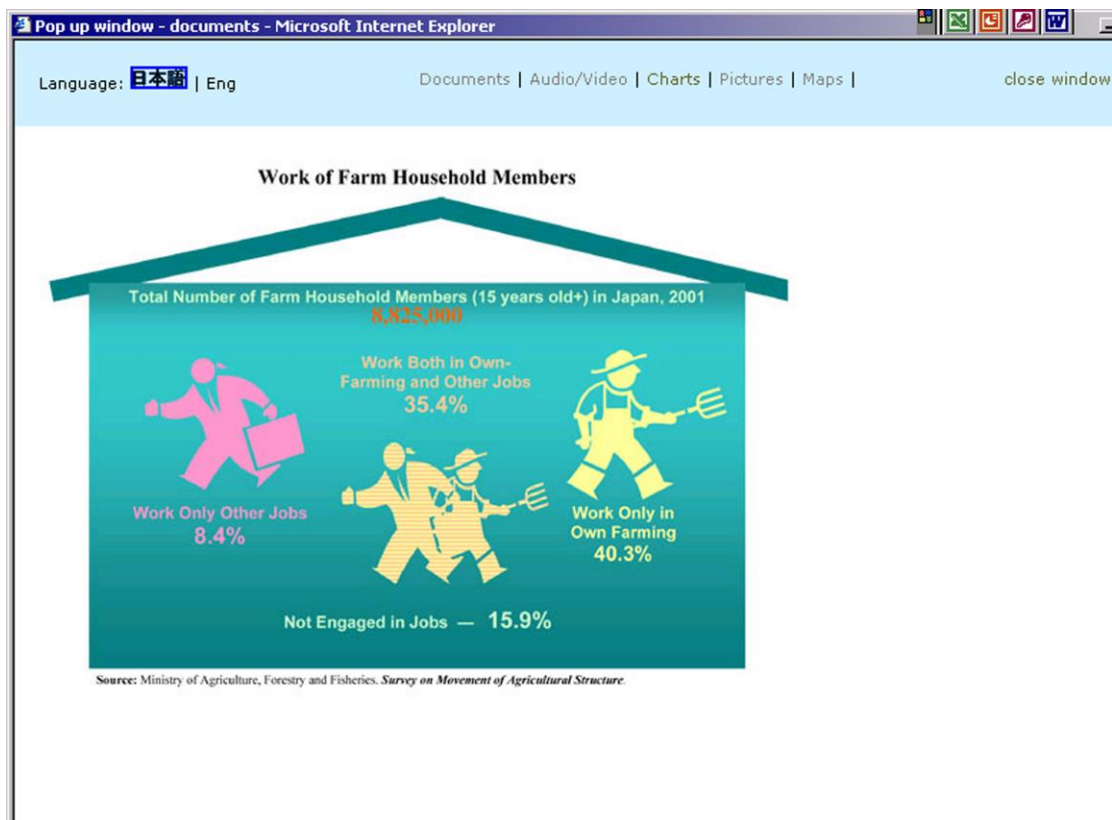
The audio-visual link includes video or sound clips, and Quicktime Virtual Reality photos that allow the user to enter the scene and manipulate a 360° view with some zoom capability.

Search In our first round of testing, students could navigate the site easily to find content, but asked for a conventional search box. Creating an effective search mechanism for a bilingual, database-driven website poses formidable technical problems, which we have now overcome. Separate search functions for English and Japanese input surmount the technical problem of multilingual user input. Each box searches the appropriate language field in the same database tables. A second key decision was to limit the search to the titles of content units, to overcome the difficulties of full text search of a bilingual database. The initial search returns a list of the content units containing the search term, and displays them within the three threads. The user can see immediately whether the content is about the U.S., Japan, or their *Cross Currents*, and can also see whether there is similar content available for both the U.S. and Japan. Clicking on a title takes the user directly to the content page.
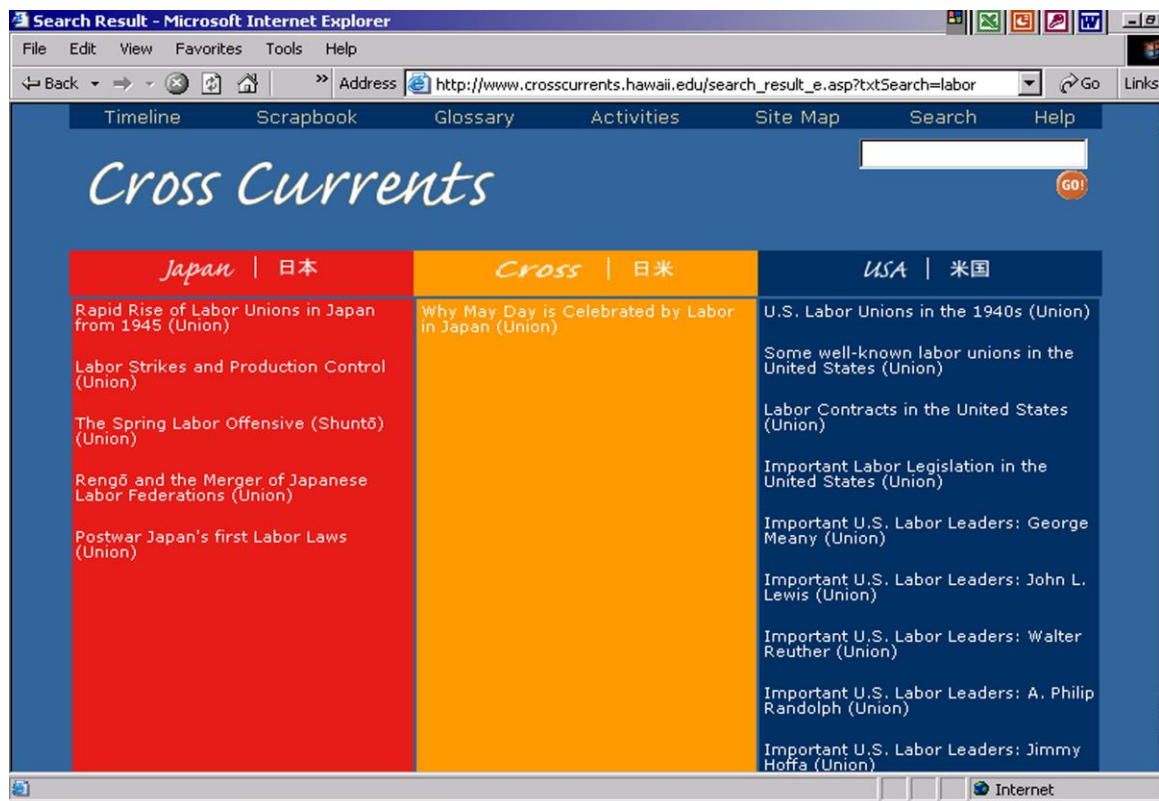
Although this search system does not search every word in the site's content, it does not return meaningless links as the usual full-text search does. It reminds the viewer of the structure of the website and its primary purpose, by displaying search results across the three color-coded threads. The results also indicate the theme and subtheme in which the title occurs, so that users can easily see where related material may be located in various parts of the site.

Site Map The site map offers another way for users to understand the site's bilingual organization and move directly to a particular theme or subtheme in any thread.

Glossary   We have developed a single bilingual glossary that contains fields for the term in English, Japanese characters (kanji), Japanese phonetic scripts (kana), and romanized Japanese (with all three major romanizations included), plus definitions or explanations of the term in both English and Japanese. The glossary is not intended to be a language dictionary; it will contain specialized terms in the site's content that a high school level user in either country might not understand. The glossary terms are selected and the definitions written by native speakers of both languages, to ensure that they provide sufficient cultural context. There are generally from one to five glossary terms per content unit. In addition to the main glossary in the database, the glossary terms are indexed to the content pages on which they appear, using a system the PI developed for a bilingual website on an earlier NEH grant.

This screen shot shows the bilingual data entry form in the database for glossary entries.

The glossary is currently in active development and will be posted by November, 2003. It will be available to the user in two different modes.   First, each content page will display the available glossary terms, in the language of the page. Clicking on any of the terms will bring up the full bilingual display, showing the terms in all four writing modes (English, romanized Japanese, phonetic Japanese, or Japanese characters) and the definitions in English and JapaneseSecond, clicking on Glossary on the top navigation bar will open a small window allowing the user to input a term in any of the four writing modes. Each input mode will search a different field of the glossary's database table. The results of the glossary search will return the full bilingual display. A link on this page will allow the user to see the full list of all the titles in which the glossary term appears, formatted in three color-coded columns like the display of search results. This use of the glossary also permits us to overcome the one limitation of the English search box; it cannot search on the romanization used for titles and text on the site, which employs macron vowels. All romanized Japanese terms that appear in titles and text will be included in the glossary. Users will see them displayed with content units, and the help files will also indicate that the glossary can be used to search for these terms.

Activities   The activities link will offer a variety of questions and games that encourage the user to explore the site.   At present, this link contains a simple game variation of the questions we have used for our preliminary testing of the site.   [See Appendix III.] We will be adding more games and activities along with curriculum support for teachers.   The activities are modular, and can be easily expanded as new content is added to the site.

Scrapbook   The scrapbook is intended to make the site more effective for classroom use, by allowing students to select material from the *Cross Currents* website and save it to a personal file where they may arrange and annotate it for class reports.   The scrapbook will be accessible only by log-in.   Teachers will request usernames and password assignments for their class, for a fixed period of time up to one year.   The scrapbook materials and associated curriculum materials for the teacher will be stored on our server for the designated period of class use.   A proposal is pending to the United States-Japan Foundation for development of the scrapbook and other curriculum support for teachers.

Timelines   The timelines are intended as a quick reference to the timing of events, arranged to facilitate comparisons across the three threads, by theme, and also in relation to world events that have affected both Japan and the United States.   Dates will be displayed on the timelines in both western calendar years and Japanese era years.   Our timeline database already contains over four thousand timeline entries coded by theme, but the system for displaying them interactively on the website has not yet been developed.   We hope to do this with NEH support.

About Us   This section (to be posted in November 2003), will be accessible from the top navigation bar and available in both Japanese and English, describes the site's sponsors and its copyright policies and recognizes all the people in both Japan and the United States who have helped to develop it.   It also provides the basis for users to make informed decisions about the intellectual credibility and reliability of the site's contents.

Help   The bilingual help section, still in early development, will aid users and particularly teachers in troubleshooting technical problems with the site.   In addition to the usual guidance, it will explain how teachers can obtain usernames and passwords for the scrapbook, and will detail the system requirements for viewing Japanese on American computers.   Although we are developing a "sniffer" that will alert users entering the site about whether their computer has the necessary language capability and Quicktime viewer, the help files will troubleshoot problems in these areas.   We plan to add audio-visual tutorials to the help files as part of our curriculum support for teachers.